

Appl. No. 10/799,417
Response Dated December 27, 2005
Reply to Office Action of September 26, 2005

•• REMARKS/ ARGUMENTS ••

The Office Action of September 26, 2005 has been thoroughly studied. Accordingly, the following remarks are believed to be sufficient to distinguish the present invention over the prior art of record and place the application into condition for allowance.

Claims 2-6 are pending in this application.

Claims 3 and 4 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,261,139 to Pogue.

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Pogue.

Claims 4 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,808,430 to Kouno in view of Pogue.

Claims 4 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,588,254 to Adachi et al. in view of Pogue and Kouno.

For the reasons set forth above, it is submitted that all of the pending claims are allowable over the prior art of record and therefore, the outstanding prior art rejections should properly be withdrawn.

Favorable reconsideration by the Examiner is earnestly solicited.

With regard to claims 3 and 4, the Examiner has relied upon Pogue as disclosing:

...a process for collecting seeds from a lump consisting of a plurality of seeds having fluffy fibers (Pogue refers the fluffy fibers as "awn" or "beard"), comprising the steps of collecting the lump from a natural environment (col. 3, line 30 where Pogue discloses seed clusters); disentangling the lump after collecting the lump (col. 3, lines 29-30, where Pogue uses an elevator system to break apart the seed clusters); and

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burning the fluffy fibers after the disentanglement of the lump (col. 3, lines 36-68, Pogue discloses using a burner assembly to burn the awn or beard of the seed).

With regard to claim 2, the Examiner has relied upon Pogue as disclosing:

...awn or beard seed but he does not specifically state that these seeds are from plants such as cattail, cogon, reedtop, and reed.

The Examiner takes the position that:

It would have been obvious...to perform the method of collecting seeds as taught by Pogue with the seeds from the above plants depending on the user's preference as long as the seeds have awn, beard or fluffy fibers to be burned or flamed as taught by Pogue.

The Examiner has relied upon Kouno as teaching:

...applying a gel coating to the seeds but not how the seeds are being prepared initially before applying the coating.

In combining the teachings of Kouno and Pogue the Examiner takes the position that:

It would have been obvious...to incorporate the preparation of seeds as taught by Pogue before applying the coating after burning the of the awing of the seeds in the method of Kouno in order to remove the awing of the seeds so that the gel coats the seeds better, thus, enhance the growth of the seeds.

The Examiner has relied upon Adachi et al. as teaching:

...coating the seeds with an alginic acid-based aqueous solution (col. 3, lines 55-57).

In combining the teachings of Adachi et al. and Pogue the Examiner takes the position that:

It would have been obvious...to incorporate the preparation of seeds as taught by Pogue before coating the seeds with an alginic-based aqueous solution after burning of the awing of the seeds in the method of Adachi et al. in order to remove the awing

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of the seeds so that the gel coats the seeds better, thus, enhance the growth of the seeds.

In the *Response to Arguments* section on page 5 of the Office Action the Examiner states that Pogue teaches a single burning step at column 6, lines 5-7.

Also on page 6 the Examiner states that "clearly from col. 1, lines 1-42 of Pogue, Pogue teaches fluffy fibers."

At column 6, lines 1-7 Pogue hypothesizes:

...if the heat generated by burner assembly 24 were suitably controlled and if the seed were transported in such manner that the seed would not bunch together and seed kernels were evenly exposed to the flame treatment, a single stage may be used to remove substantially all of the awn without seed damage.

Pogue does not provide an enabling teachings as to how to control the heat generated by the burner or how to transport the seed "in such a manner that the seed would not bunch together and seed kernels were evenly exposed to the flame treatment" so that a single burning step can be used.

The only specific example (which has to be considered Pogue's "best mode," and is not a working example) is found in the sentence bridging columns 5 and 6 where Pogue states:

... six stages of treatment have been found sufficient to remove substantially all awn. More or less stages, of course, may be used depending on the amount of awn desired to be removed.

At best Pogue theorizes that it may be possible to conduct a single burning step, but certainly Pogue does not disclose how such a single burning step could be performed.

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Based upon a finding or determination that 6 stages were required to remove substantially all the awn, one cannot conclude that the allowance for "more or less stages" encompasses only one stage at all.

Moreover, applicants submit that awn of the buffleggrass that is exemplified in Pogue cannot be burnt off in a single burning step according to the present invention.

Following applicants' disclosed method from the examples beginning on page 4, a lump of cattail seeds was disentangled to obtain a plate-like arrangement with a thickness of 5 mm and an interval of 1 mm between each seed embryo. The detangled lump of seeds was ignited at one spot with a flame from a lighter so that the lump burnt. In this process, where the whole area of the lump was 10 cm x 10 cm, it only took 3 seconds to remove all the fluffy fibers from the seeds.

Because the burning takes such a short time, the embryo of the seeds is not adversely subjected to heat, so that the germination of the seeds remains good as established in applicants' examples.

The Examiner has taken the position that the awn or seeds is the same as the type of fluffy fiber found on cattail, reed, cogon and redtop.

This is not the case.

Applicants' method will not work on seeds such as buffleggrass that have awns.

The seeds having fluffy fibers that are used according to the present invention typically have fluffy fibers that are about 0.01 mm in diameter as can be seen in Figs. 1-3 or otherwise found by simple research.

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On the other hand seeds that have awns typically have awns that have diameters of about 1 mm.

From these diameter differences, it can be readily understood how the detangled fluffy fibers can ignite easily and burn quickly according to the present invention.

On the other hand, it can be understood how it is more difficult to ignite the woody awns and, more importantly, how the thicker mass of awns will burn longer once ignited – which subjects the seed to heat damage.

Pogue clearly recognizes that the seeds will be subjected to heat damage unless measures are taken to prevent heat damage.

Pogue accordingly requires cooling the seeds immediately after each (and every) burning stage.

Specifically at column 2, lines 57-66 Pogue teaches:

After passing through that first flame treatment, the seed is cooled by passing cooling air over the seed. That cooling air serves primarily two purposes. The first is to cool the seed and allow for successive flame treatments without seed kernel damage. The second purpose served is that the air removes combustion products formed during the flame treating process. An added advantage is the cooling air removes light seed having a low incidence of germination. The resulting treated seed thus, in addition to having the awn removed, may have a higher incidence of germination than prior to treatment.

The cooling taught by Pogue is necessary to progressively burn the seed awn without causing damage to the seeds. That is, Pogue specifically teaches a series of burns that are separated by a series of cooling stages, rather than a single burning step that Pogue indicates would damage the seeds.

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Even if one could conceive of the process of Pogue using a single burning step or stage (which is not taught or enabled), one would have to conclude from the teachings of Pogue that a cooling stage would still be necessary.

Note, Pogue teaches "[a]fter the first flame treatment, the seed is cooled by passing cooling air over the seed." See also Figs. 1 and 2 which show blowers (cooling stages) after each burner. Thus, it is clear that every burning stage requires a cooling stage in Pogue.

Applicants' method does not require a cooling step because heat is dissipated so quickly that the seeds are not damaged.

This is because the fluffy fibers of applicants' seeds which have small diameters burn quickly.

In contrast, the awns of the seed of Pogue which have relatively thick diameters burning slower and longer, creating residual heat that can, over the time the awns burn, damage the seeds.

Had Pogue truly attempted to detangle and burn seeds with fluffy fibers according to the present invention (which he clearly did not do), he would have certainly found that a single burning step would have been sufficient and that no cooling would have been necessary.

The fact that Pogue did not discover such a process is evidence that Pogue did not experiment with seeds having fluffy fibers and, being only focused on seeds having awns, did not at all realize that seeds with fluffy fibers could be processed with a single burning stage and without subsequent cooling.

Pogue did not foresee and cannot be relied upon as anticipating or rendering obvious applicants' claimed invention under 35 U.S.C. §102 and §103.

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The Examiner has states that "Pogue refers the fluffy fibers as "awn" or "beard" as if there was no difference between the fluffy fibers of cattail, reed, cogon and redtop and the awns "bufflegrass and other awned or bearded seeds" which Pogue teaches are "fibrous" hairs.

Note, Pogue teaches that the awns can be frozen and broke off, or removed by sandpaper. These processes suggest that awns are woody and have thick diameters and are not the same as fluffy fibers. The diameters of awns are a hundredfold the thickness of the diameters of fluffy fibers.

Moreover, applicant has demonstrated on the record that awns and fluffy fibers on seeds are not the same or similar.

The Board of Appeals relied upon Pogue teaching that the "awn causes the seeds to be easily blown by the wind and also causes the seed to bunch together" and concluded that Pogue encompassed fluffy fibers.

This statement has to take together with the fact that Pogue teaches blowers 19 which would certainly blow away any unburnt seeds if the retained awn actually "causes the seed to be easily blown by the wind."

Thus, the statement that the "awn causes the seeds to be easily blown by the wind and also causes the seed to bunch together" has to be construed as having some limitations, otherwise the blowers 19 would result in the loss of valuable seeds, particularly if seeds with fine fluffy fibers were processed in the apparatus disclosed by Pogue.

It is submitted that a fair reading of Pogue reveals that Pogue teaches a process that is designed to process seeds having awns or beards which process requires stage-wise successive

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burning steps followed by cooling stages – because of the woody nature of the “fibrous” hairs of the awns.

In contract, applicants’ invention is directed at processing seeds such as cattail, reed, cogon and redtop that have fluffy fibers that can be burnt (after being detangled) in one burning step without the need (or expense) of a subsequent cooling step.

As such, applicants’ process is more economically efficient than Pogue and requires much less equipment/facilities costs.

The Examiner has relied upon each of the secondary references as teaching gel coating seeds. This reliance upon the secondary reference does not address or overcome the differences between Pogue and applicants’ basic process of removing the fluffy fibers from the seeds.

Based upon the above distinctions between the prior art and the present invention, and the overall teachings of the prior art, properly considered as a whole, it is respectfully submitted that the Examiner cannot rely upon the prior art as required under 35 U.S.C. §102 as anticipating applicants’ claimed invention.

Moreover the Examiner cannot rely upon the prior art as required under 35 U.S.C. §103 to establish a *prima facie* case of obviousness of applicants’ claimed invention.

It is, therefore, submitted that any reliance upon the prior art would be improper inasmuch as the prior art does not remotely anticipate, teach, suggest or render obvious the present invention.

It is submitted that the claims, as now amended, and the discussion contained herein clearly show that the claimed invention is novel and neither anticipated nor obvious over the teachings of Pogue and the outstanding rejection of the claims should hence be withdrawn.

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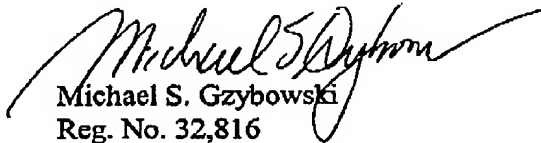
Therefore, reconsideration and withdrawal of the outstanding rejection of the claims and an early allowance of the claims is believed to be in order.

It is believed that the above represents a complete response to the Official Action and reconsideration is requested.

If upon consideration of the above, the Examiner should feel that there remain outstanding issues in the present application that could be resolved; the Examiner is invited to contact applicants' patent counsel at the telephone number given below to discuss such issues.

To the extent necessary, a petition for an extension of time under 37 CFR §1.136 is hereby made. Please charge the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 12-2136 and please credit any excess fees to such deposit account.

Respectfully submitted,



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